



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0706; Directorate Identifier 2013-NM-067-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model DC-9-10, DC-9-30, and DC-9-40 series airplanes. This proposed AD was prompted by an evaluation by the design approval holder (DAH) indicating that the aft pressure bulkhead web area is subject to widespread fatigue damage (WFD). This proposed AD would require modifying the aft pressure bulkhead. The modification includes inspecting for cracks around the rivet holes, and repair of any cracking. We are proposing this AD to prevent fatigue cracking of the aft pressure bulkhead, which could result in reduced structural integrity of the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, CA 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Eric Schrieber, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: (562) 627-5348; fax: (562) 627-5210; email: [eric.schrieber@faa.gov](mailto:eric.schrieber@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0706; Directorate Identifier 2013-NM-067-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

Structural fatigue damage is progressive. It begins as minute cracks, and those cracks grow under the action of repeated stresses. This can happen because of normal operational conditions and design attributes, or because of isolated situations or incidents such as material defects, poor fabrication quality, or corrosion pits, dings, or scratches. Fatigue damage can occur locally, in small areas or structural design details, or globally. Global fatigue damage is general degradation of large areas of structure with similar structural details and stress levels. Multiple-site damage is global damage that occurs in a large structural element such as a single rivet line of a lap splice joining two large skin panels. Global damage can also occur in multiple elements such as adjacent frames or stringers. Multiple-site-damage and multiple-element-damage cracks are typically too small initially to be reliably detected with normal inspection methods. Without intervention, these cracks will grow, and eventually compromise the structural integrity of the airplane, in a condition known as widespread fatigue damage (WFD). As an airplane ages, WFD will likely occur, and will certainly occur if the airplane is operated long enough without any intervention.

The FAA's WFD final rule (75 FR 69746, November 15, 2010) became effective on January 14, 2011. The WFD rule requires certain actions to prevent structural failure due to WFD throughout the operational life of certain existing transport category

airplanes and all of these airplanes that will be certificated in the future. For existing and future airplanes subject to the WFD rule, the rule requires that DAHs establish a limit of validity (LOV) of the engineering data that support the structural maintenance program. Operators affected by the WFD rule may not fly an airplane beyond its LOV, unless an extended LOV is approved.

The WFD rule (75 FR 69746, November 15, 2010) does not require identifying and developing maintenance actions if the DAHs can show that such actions are not necessary to prevent WFD before the airplane reaches the LOV. Many LOVs, however, do depend on accomplishment of future maintenance actions. As stated in the WFD rule, any maintenance actions necessary to reach the LOV will be mandated by airworthiness directives through separate rulemaking actions.

In the context of WFD, this action is necessary to enable DAHs to propose LOVs that allow operators the longest operational lives for their airplanes, and still ensure that WFD will not occur. This approach allows for an implementation strategy that provides flexibility to DAHs in determining the timing of service information development (with FAA approval), while providing operators with certainty regarding the LOV applicable to their airplanes.

#### **Explanation of Applicability**

For The Boeing Company Model DC-9 series airplanes, AD 85-01-02 R1, Amendment 39-5241 (51 FR 6101, dated February 20, 1988), was issued to supersede an AD that required visual, eddy current, and x-ray inspections of the aft pressure bulkhead for cracking. AD 85-01-02 R1 required accomplishing the modification specified in Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984, within 18 months after March 31, 1986 (the effective date of AD 85-01-02 R1). Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984, specifies that

the modification must be done for Groups I and II airplanes with more than 40,000 total flight cycles.

We are proposing this AD to address Group I or Group II airplanes that have not accomplished the modification specified in Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984. This proposed AD is not a supersedure because the required actions apply only to those airplanes. AD 85-01-02 R1, Amendment 39-5241 (51 FR 6101, dated February 20, 1988), also contained additional actions that are not included in this proposed AD.

#### **Relevant Service Information**

We reviewed Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2013-0706.

#### **FAA's Determination**

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **Proposed AD Requirements**

This proposed AD would require accomplishing the actions specified in the service information identified previously, except as discussed under "Differences Between the Proposed AD and the Service Information."

#### **Differences Between the Proposed AD and the Service Information**

Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984, specifies that the original ventral bulkhead was tested by McDonnell Douglas for up to 76,550 flight cycles, and cracking was detected at 72,000 flight cycles. It was determined that the initial inspection threshold of 40,000 flight cycles, as specified in the

service information, was based on half the test life, which was adjusted for the current fleet distribution at that time. Testing also showed an onset of cracking at 72,000 flight cycles was not widespread fatigue type cracking. Therefore, we have determined that a compliance time of “before the accumulation of 72,000 flight cycles or with 18 months after the effective date of the AD, whichever is later” adequately addresses the unsafe condition identified in this proposed AD.

Sheet 1 of Service Sketch 3109, and Sheet 7 of Service Sketch 3110B of Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984; specify reporting the details of any cracks found; however, this proposed AD does not require reporting.

Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984, specifies to contact the manufacturer for instructions on how to repair certain conditions, but this proposed AD would require repairing those conditions in one of the following ways:

- In accordance with a method that we approve; or
- Using data that meet the certification basis of the airplane, and that have been approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) whom we have authorized to make those findings.

These differences have been coordinated with the manufacturer.

### **Explanation of Compliance Time**

The compliance time for the modification specified in this proposed AD for addressing WFD was established to ensure that discrepant structure is modified before WFD develops in airplanes. Standard inspection techniques cannot be relied on to detect WFD before it becomes a hazard to flight. We will not grant any extensions of the compliance time to complete any AD-mandated service bulletin related to WFD without extensive new data that would substantiate and clearly warrant such an extension.

## **Costs of Compliance**

We estimate that this proposed AD affects 6 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

### **Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Modification (includes inspection)	542 work-hours X \$85 per hour = \$46,070	\$4,680	\$50,750	\$304,500

## **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**The Boeing Company:** Docket No. FAA-2013-0706; Directorate Identifier 2013-NM-067-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(b) Affected ADs**

None.



**(c) Applicability**

This AD applies to The Boeing Company Model DC-9-10, DC-9-30, and DC-9-40 series airplanes, certificated in any category, identified in Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 5312, Fuselage Main Bulkhead.

**(e) Unsafe Condition**

This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the fuselage bulkhead web area is subject to widespread fatigue damage (WFD). We are issuing this AD to prevent fatigue cracking of the bulkhead, which could result in reduced structural integrity of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Modification**

For airplanes on which the modification (AD4 rivets replaced with AD5 rivets) required by AD 85-01-02 R1, Amendment 39-5241 (51 FR 6101, dated February 20, 1988) has not been done: Before the accumulation of 72,000 total flight cycles, or within 18 months after the effective date of this AD, whichever occurs later, modify the aft pressure bulkhead by removing all affected AD4 rivets and doing either a fluorescent penetrant or eddy current inspection around the rivet holes for cracks, repairing any cracking, and installing five-leaf doublers with AD5 rivets, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984; except as required by paragraph (h) of this AD.

Note 1 to paragraph (g) of this AD: Information on additional procedures for the modification can be found in Notes 4, 5, and 6, as applicable, of paragraph 1.D.,

‘Compliance’ of Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984.

**(h) Exception to Service Information**

If any crack is found during any inspection required by this AD, and Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984, specifies to contact Boeing for appropriate action: Before further flight, repair using a method approved in accordance with the procedures specified in paragraph (j) of this AD.

**(i) No Reporting Required**

Sheet 1 of Service Sketch 3109, and Sheet 7 of Service Sketch 3110B of Boeing Alert Service Bulletin DC9-A53-144, Revision 2, dated February 23, 1984; specify reporting the details of any cracks found; however, this AD does not require reporting.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the Los Angeles ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by Structures Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Los Angeles ACO, to make those findings. For a

repair method to be approved, the repair must meet the certification basis of the airplane, and 14 CFR 25.571, Amendment 45, and the approval must specifically refer to this AD.

**(k) Related Information**

(1) For more information about this AD, contact Eric Schrieber, Aerospace Engineer, Airframe Branch, ANM-120L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, CA 90712-4137; phone: (562) 627-5348; fax: (562) 627-5210; email: [eric.schrieber@faa.gov](mailto:eric.schrieber@faa.gov).

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, CA 90846-0001; telephone 206-544-5000, extension 2; fax 206-766-5683; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on August 30, 2013.

Stephen P. Boyd,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

[FR Doc. 2013-22147 Filed 09/10/2013 at 8:45 am; Publication Date: 09/11/2013]